Sampling of soil for farmers growing beans. Photo Credit: PABRA

Lab in hand: Instant soil testing app raises yields for bean growers

By Elias Ngalame

SOIL-BORNE pests and diseases and acidity have been a menace for bean growers in Kumba, Southwest of Cameroon, condemning them to low yields year after year.

Peter Agbor, a local bean farmer, says the fertility of soil on his farm has been reducing over the years and he has had to use expensive pesticides to save his crops from pest attacks.

Last year, however, he saw his bean harvest double from the same size of land after planting a new variety on the advice of experts from Clinic Agro, a technology startup that created a mobile app-based instant soil testing kit called Clinic Sol.

"The Clinic Sol analysis showed that the soil quality in my farming area was acidic. So I was given a bean variety that was resistant to acidic condition. This helped to increase my yield last year from two to four tonnes," says Agbor, adding that pests did not destroy the leaves and the pods of the plants.

Founded by Pyrus Koudjou, an agricultural engineer, the kit helps farmers to analyse their soil quality to help choose the most suitable crop to plant.

Many farmers in Cameroon, Koudjo says, are now growing new varieties of crops that are providing much higher yields because they were planted on tested and analysed soils.

"In Kumba, for example, beans farmers are witnessing increased yields with the new seed variety than the traditional varieties that are susceptible to pests, diseases, and adverse weather," he says.

"We trained them on how to test and analyse the soil before planting."

Seven varieties of hardier and more nutritious beans are now being distributed to farmers, following extensive trials by the country's Institute of Agricultural Research for Development (IRAD).

Researchers at IRAD selected the varieties from hundreds given to Cameroon by the Pan-Africa Bean Research Alliance (PABRA), a multi-agency initiative that coordinates bean research on the continent. Trials were conducted at the institute and on farms from 2018 to 2021, with some 800,000 farmers.

According to the national research coordinator at IRAD for the programme, Geneva Ojong, the tested and adopted seven varieties can produce up to three tonnes per hectare compared with 1.5 tonnes for traditional varieties. They are also richer in proteins, iron and zinc.

However, long distances between IRAD research stations and farmers are a problem when it comes to promoting the new varieties.

Ojong suggests this problem ban be solved by setting up local networks of farmers trained in the production of quality seeds.

The seeds are currently being sold at an affordable price of 650fcfa (US$1) per kilogramme - the same price as seeds for traditional varieties.

Experts say it is very important for farmers to analyse their soils to be able to secure their investments, reduce the use of pesticides, input cost and above all improve productivity and profitability.

According to Dr Ehode Eugene, an agronomist, many farmers have switched crops after testing their soils.

"Farmers have moved from cassava production to vegetables and are doing very well thanks to soil analysis for efficiency," he said.

Soil testing platform, a gamechanger in maximizing bean yield for farmers. Photo Credit: PABRA